

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

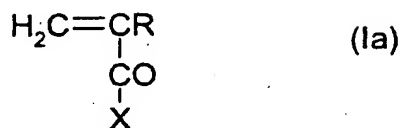
Listing of Claims:

Claim 1. (Currently Amended) A polymer Polymer comprising water-soluble units and LCST units ~~having a temperature of LCST type~~, said polymer being obtainable by reaction between the reactive sites, firstly of the water-soluble units bearing, before reaction, at least two reactive sites, and secondly of the LCST units ~~with an LCST~~ bearing, before reaction, at least one reactive site, so as to form a covalent bond therebetween, said LCST units ~~with an LCST~~ consisting of N-vinylcaprolactam homopolymers or of copolymers derived therefrom, the proportion by mass weight of the LCST units ~~with an LCST~~ in the polymer ranging from being between 5 % and to 70 %.

Claim 2. (Currently Amended) The polymer Polymer according to Claim 1, which is ~~in the form of a block polymer comprising water-soluble blocks alternating with LCST blocks with an LCST~~, or ~~in the form of is a grafted graft~~ polymer whose backbone is formed from water-soluble units and bears LCST grafts ~~with an LCST~~, the polymer optionally being this structure possibly being partially crosslinked.

Claim 3. (Currently Amended) The polymer Polymer according to ~~either of the preceding claims~~ Claim 1 or 2, in which the water-soluble units, ~~before reaction~~, are obtained by free-radical radically polymerization of polymerizing at least one monomer A selected chosen, ~~alone or as a mixture~~, from the group consisting of:

- (meth)acrylic acid ;
- vinyl monomers of formula (Ia) below:



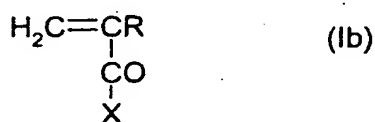
in which:

- R is chosen selected from the group consisting of H, -CH₃, -C₂H₅ or -C₃H₇;
- X is chosen selected from the group consisting of alkyl oxides of -OR' - OR'' type in which R' is a linear or branched, saturated or unsaturated hydrocarbon-based radical containing from 1 to 6 carbons, substituted with at least one hydroxyl (-OH); primary amine (-NH₂); secondary amine (-NHR₁) or tertiary amine (-NR₁R₂) group, with R₁ and R₂, independently of each other, representing a linear or branched, saturated or unsaturated hydrocarbon-based radical containing 1 to 25 carbon atoms, with the proviso that the sum of the carbon atoms of R₁ + R₂ does not exceed 26; a halogen atom (~~iodine, bromine, chlorine or~~ fluorine);
- groups -NH₂, -NHR' and -NR'R'' in which R' and R'' are, independently of each other, linear or branched, saturated or unsaturated hydrocarbon-based radicals containing 1 to 25 carbon atoms, with the proviso that the total number of carbon atoms of R' + R'' does not exceed 26, the said R' and R'' groups optionally being substituted with a hydroxyl (-OH); ~~sulphonic~~ sulphonate (-SO₃); sulphate (-SO₄); phosphate (-PO₄H₂); primary amine (-NH₂); secondary amine (-NHR₁), tertiary amine (-NR₁R₂) and/or quaternary amine (-N⁺R₁R₂R₃) group, with R₁, R₂ and R₃ being, independently of each other, a linear or branched, saturated or unsaturated hydrocarbon-based radical containing 1 to 25 carbon atoms, with the proviso that the sum of the carbon atoms of R₁ + R₂ does not exceed 26, and that the sum of the carbon atoms of R₁ + R₂ + R₃ does not exceed 27;
- maleic anhydride;
- itaconic acid;

- vinyl alcohol of the formula $\text{CH}_2=\text{CHOH}$;
- vinyl acetate of the formula $\text{CH}_2=\text{CH-OCOCH}_3$.

Claim 4. (Currently amended) The polymer ~~Polymer~~ according to Claim 3, in which the water-soluble units, ~~before reaction,~~ are obtained by polymerization also of at least one monomer B selected ~~chosen, alone or as a mixture,~~ from the group consisting of:

- vinyl monomers of formula (Ib) below:



in which:

- R is ~~chosen~~ selected from the group consisting of H, -CH₃, -C₂H₅ ~~or~~ and -C₃H₇;
- X is ~~chosen~~ selected from the group consisting of alkyl oxides (-OR') ~~of -OR'~~ type in which R' is a linear or branched, saturated or unsaturated hydrocarbon-based radical containing from 1 to 6 carbons, optionally substituted with a ~~sulphonic~~ sulphonate (-SO₃⁻), sulphate (-SO₄⁻), phosphate (-PO₄H₂); and/or quaternary amine (-N⁺R₁R₂R₃) group, with R₁, R₂ and R₃ being, independently of each other, a linear or branched, saturated or unsaturated hydrocarbon-based radical containing 1 to 25 carbon atoms, with the proviso that the sum of the carbon atoms of R₁ + R₂ + R₃ does not exceed 27;
- N-vinyl lactams such as N-vinylpyrrolidone, N-vinylcaprolactam ~~and N-butyrolactam~~;
- vinyl ethers of the formula $\text{CH}_2=\text{CHOR}$ in which R is a linear or branched, saturated or unsaturated hydrocarbon-based radical containing from 1 to 25 carbons;
- styrene and its derivatives, ~~especially styrene-sulphonate~~;
- dimethyldiallylammonium chloride; and
- vinylacetamide.

Claim 5. (Currently Amended) The polymer ~~Polymer~~ according to Claim ~~either of~~ Claims 1 and or 2, in which the water-soluble units, ~~before reaction~~, are ~~chosen~~ selected from the group consisting of:

- water-soluble polyurethanes having, before reaction, at least two reactive sites, ~~especially bearing carboxylic acid functions~~;
- xanthan gum;
- alginates and derivatives thereof ~~such as propylene glycol alginate~~;
- cellulose derivatives ~~and especially carboxymethylcellulose~~,
hydroxypropylcellulose, hydroxyethylcellulose and quaternized hydroxyethylcellulose;
- galactomanans and derivatives thereof, ~~such as Konjac gum, guar gum,~~
hydroxypropylguar, hydroxypropylguar modified with sodium methylearboxylate groups,
and hydroxypropyl trimethylammonium guar chloride; and
- polyethyleneimine.

Claim 6. (Currently Amended) The polymer ~~Polymer~~ according to ~~one of the~~ preceding claims Claim 1, in which the water-soluble units have a molar mass of ~~between~~ weight ranging from 5 000 g/mol ~~and to~~ 5 000 000 g/mol when ~~they~~ the units constitute the water-soluble backbone of a grafted graft polymer; or a molar mass of ~~between~~ weight ranging from 5 000 g/mol ~~and to~~ 100 000 g/mol when ~~they~~ the units constitute a block of a multiblock polymer.

Claim 7. (Currently Amended) The polymer ~~Polymer~~ according to Claim 1 or 2 ~~one~~ of the preceding claims, in which the LCST units ~~with an LCST~~ consist of N-vinylcaprolactam homopolymers of formula (II) below:



or of copolymers of N-vinylcaprolactam and:

- of a vinyl monomer of formula (III) below:



in which:

- R is ~~chosen~~ selected from the group consisting of H, -CH₃, -C₂H₅ ~~or~~ and -C₃H₇; and
- X is ~~chosen~~ selected from the group consisting of:
- alkyl oxides (-OR') ~~of -OR' type~~ in which R' is a linear or branched, saturated or unsaturated hydrocarbon-based radical containing from 1 to 6 carbons, optionally substituted with at least one halogen atom (~~iodine, bromine, chlorine or fluorine~~); a sulphonic sulfonate (-SO₃⁻), sulphate (-SO₄⁻), phosphate (-PO₄H₂); hydroxyl (-OH); primary amine (-NH₂); secondary amine (-NHR₁), tertiary amine (-NR₁R₂) or quaternary amine (-N⁺R₁R₂R₃) group with R₁, R₂ and R₃ being, independently of each other, a linear or branched, saturated or unsaturated hydrocarbon-based radical containing 1 to 6 carbon atoms, with the proviso that the sum of the carbon atoms of R' + R₁ + R₂ + R₃ does not exceed 7; and
- groups -NH₂, -NHR' and -NR'R'' in which R' and R'' are, independently of each other, linear or branched, saturated or unsaturated hydrocarbon-based radicals containing 1 to 6 carbon atoms, with the proviso that the total number of carbon atoms of R' + R'' does not exceed 7, the said R' and R'' optionally being substituted with a halogen atom (~~iodine, bromine, chlorine or fluorine~~); a hydroxyl (-OH); sulphonic sulfonate (-SO₃⁻),

sulphate ($-\text{SO}_4^-$); phosphate ($-\text{PO}_4\text{H}_2$); primary amine ($-\text{NH}_2$); secondary amine ($-\text{NHR}_1$), tertiary amine ($-\text{NR}_1\text{R}_2$) and/or quaternary amine ($-\text{N}^+\text{R}_1\text{R}_2\text{R}_3$) group with R_1 , R_2 and R_3 being, independently of each other, a linear or branched, saturated or unsaturated hydrocarbon-based radical containing 1 to 6 carbon atoms, with the proviso that the sum of the carbon atoms of $\text{R}' + \text{R}'' + \text{R}_1 + \text{R}_2 + \text{R}_3$ does not exceed 7;

- maleic anhydride;
- itaconic acid;
- vinyl alcohol of the formula $\text{CH}_2=\text{CHOH}$; vinyl acetate of the formula $\text{CH}_2=\text{CH}-\text{OCOCH}_3$;
- a vinyl ether of the formula $\text{CH}_2=\text{CHOR}$ in which R is a linear or branched, saturated or unsaturated hydrocarbon-based radical containing from 1 to 6 carbons;
- styrene or derivatives thereof, ~~especially styrene sulphonate~~;
- dimethyldiallylammonium chloride; and
- vinylacetamide.

Claim 8. (Currently Amended) The polymer ~~Polymer~~ according to ~~one of the~~ preceding claims Claim 1 or 2, in which the molar mass weight of the LCST units ~~with an~~ LCST is between ranges from 1 000 and to 500 000 g/mol ~~and especially between 2 000 and 50 000 g/mol.~~

Claim 9. (Currently Amended) The polymer ~~Polymer~~ according to ~~one of the~~ preceding claims Claim 1 or 2, in which the LCST units ~~with an LCST, before reaction,~~ are in the form of N-vinylcaprolactam homopolymers or of amino, ~~especially monoamino, diamino or triamino,~~ derivative copolymers.

Claim 10. (Currently Amended) The polymer Polymer according to one of the preceding claims Claim 1 or 2, in which the proportion by mass weight of the LCST units with an LCST in the final polymer is preferably between ranges from 20 % and to 65 %, and particularly between 30% and 60% by weight relative to the final polymer.

Claim 11. (Currently Amended) The polymer Polymer according to one of the preceding claims Claim 1 or 2, in which the heat-induced demixing temperature of the LCST type of the said units with an LCST is between ranges from 5° C and to 40° C and preferably 10°C and 35°C, for a concentration by mass weight in water of 1 % by weight of the said LCST units with an LCST.

Claim 12. (Currently Amended) The polymer Polymer according to one of the preceding claims Claim 1 or 2, having a solubility in water, at 20°C, of at least 10 g/l and preferably of at least 20 g/l.

Claim 13. (Currently Amended) Polymer according to one of the preceding claims, for producing a A thickened, or even gelled, transparent aqueous composition, which has having a maximum light transmittance value, irrespective of the wavelength of between ranging from 400 and to 800 nm, through a sample 1 cm thick, of at least 80 % and preferably of at least 85% prepared from the polymer of Claim 1.

Claim 14. (Currently Amended) An aqueous Aqueous composition comprising at least one polymer as defined according to one of the preceding claims according to Claim 1, and an aqueous phase.

Claim 15. (Currently Amended) The composition Composition according to Claim 14, in which the polymers are the polymer is present in an amount of between ranging from 0.01

% and to 20 % by weight, ~~especially from 0.05% to 15% by weight and in particular from 0.1% to 10% by weight.~~

Claim 16. (Currently Amended) The composition ~~Composition~~ according to ~~either of Claims Claim~~ 14 and 15, moreover comprising a cosmetically or dermatologically acceptable medium.

Claim 17. (Currently Amended) A cosmetic ~~Cosmetic use of the composition~~ according to ~~any one of Claims 14 to 16,~~ for the making up and/or caring for keratin materials containing the aqueous composition of Claim 14.

Claim 18. (New) The polymer according to Claim 5, wherein:
the water-soluble polyurethanes bear carboxylic acid functional groups;
the alginate derivative is propylene glycol alginate;
the cellulose derivative is carboxymethylcellulose, hydroxypropylcellulose, hydroxyethylcellulose or quaternized hydroxyethylcellulose; and
the galactomanan derivative is Konjac gum, guar gum, hydroxypropylguar, hydroxypropylguar modified with sodium methylcarboxylate groups or hydroxypropyltrimethylammonium guar chloride.

Claim 19. (New) The polymer according to Claim 9, wherein the amino derivative copolymer is a monoamino, diamino or triamino derivative copolymer.

Claim 20. (New) The polymer according to Claim 10, in which the proportion by weight of the LCST units in the final polymer ranges from 30 % to 60 % by weight relative to the final polymer.

Claim 21. (New) The polymer according to Claim 11, in which the heat-induced demixing temperature of the LCST units ranges from 10°C and 35°C, for a concentration by weight in water of 1 % by weight of the said LCST units.

Claim 22. (New) The polymer according to Claim 12, having a solubility in water, at 20°C, of at least 20 g/l.

Claim 23. (New) The polymer according to Claim 1, wherein the polymer is comprised of acrylic acid units as water-soluble monomer units and N-vinylcaprolactam as LCST units.

Claim 24. (New) The thickened transparent aqueous composition according to Claim 13, which has a maximum light transmittance value of at least 85 %.

Claim 25. (New) The composition according to Claim 14, in which the polymer is present in an amount ranging from 0.05 % to 15 % by weight.